

More specifically, with regard to claims 23 and 31, these claims have been amended to address the lack of antecedent basis referred to by the Examiner. It is further noted that claim 21, from which both of these claims depend, has been amended hereby to call for the coupling element to be engagable with coupling devices disposed on the spring brackets of the respective relays.

Numerous clarifying amendments have been made to claims 21-27, 29 and 31-35 hereby and, it is respectfully submitted that as amended claims 21-38 point out with particularity and distinctly claim the subject matter regarded as the invention and render the Examiner's rejections under 35 U.S.C. § 112, second paragraph, of claims 21-38 moot. Thus, the withdrawal of the Examiner's rejection of claims 21-38 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

The Examiner has rejected claims 21-38 under 35 U.S.C. § 103(a) as being unpatentable over Ichimura et al. (U.S. Pat. No. 4,947,146) in view of Corcoran (U.S. Pat. No. 6,081,177). Claim 21 calls for a relay with coupling element which includes at least one spring bracket, a drive disposed on the spring bracket and which acts over an actuator on at least one active contact spring which cooperates with at least one passive contact spring anchored in the spring bracket, at least one of the active and passive contact springs being electrically contactable through a connection contact; characterized in that the relay is mechanically couplable with at least one further relay of the same kind wherein each of the relays have a similar configuration, a coupling element constructed as a separate component engagable with coupling devices disposed on the spring brackets of the respective relays, electric connection contacts of the contact springs of the respective relays being disposed proximate the respective coupling devices, and further characterized in that the coupled relays lie in mirror-image symmetry relative to the coupling element.

When discussing Ichimura et al., the Examiner cites elements 49 and 72 for disclosing a coupling member. Element 49 is shown in Figure 5 and is described as a substantially cruciform shaped coupling member which is rockable about shaft ends 49a due to displacement of the armature 32. See col. 6, lines 36-44. Element 72 is also shown in Figure 5 and is described as a frame which is mounted to housing body 50 and disposed above moveable base body 51. See col. 7, lines 57-60. Neither of these elements, however, either alone or together disclose or suggest a coupling element for mechanically coupling one relay with another relay having a similar configuration wherein the coupling element is constructed

as a separate component engagable with coupling devices disposed on the spring brackets of two respective relays wherein connection contacts (e.g., element 7 of present application) of the contact springs of the respective relays are disposed proximate the coupling devices and wherein, when the relays are coupled together by the coupling element, the coupled relays lie in mirror-image symmetry relative to the coupling element as called for in claim 21.

Corcoran also fails to disclose such a coupling element engageable with coupling devices wherein connection contacts are disposed proximate the coupling devices and the coupled relays lie in mirror-image symmetry relative to the coupling element.

The structure called for in claim 21 provides several advantages. For example, by disposing the connection contacts of the respective relays proximate the coupling devices, when two relays are coupled together with the coupling element, the connection contacts of the relays will be positioned relatively closely together thereby facilitating a reduction in circuitry costs.

Furthermore, providing a coupling element to mechanically couple together two relays having a similar configuration allows for each of the relays to work independent of the other relay since each relay includes its own drive. The mechanically coupled relays may thereby be electrically coupled together to define a single contact path in which both relay drives must be actuated to fully close the contact path and thereby define a logical AND condition. In relay configurations where actuating a single drive closes two separate contacts, no such logical AND condition is created. The structure called for in claim 21 couples two relays together in a manner which allows for the creation of such a logical AND condition.

Thus, claim 21, and claims 22-38 which depend therefrom, are patentably distinct over Ichimura et al. in view of Corcoran.

It is further noted that claims 23 and 31, and claim 35 which depends therefrom, further call for the coupling element to be releasably coupled. By providing a coupling element that releasably couples at least two relays together as called for in claim 21, one of the relays can be exchanged if it is damaged without requiring the replacement of the other undamaged relay thereby facilitating a reduction in costs. Consequently, claims 23, 31 and 35 are also patentably distinct over the cited references for this additional reason.

It is also noted that claims 25 and 33-35, and claims 26 and 36 which depend therefrom, further call for at least one partition wall insulatingly separating the respective

contact springs of the relays when the relays are coupled. Such a partition wall may advantageously prevent a broken contact spring from falling into contact with the contacts of another relay and may thereby prevent short circuits which could result from such broken contact springs. Consequently, claims 25, 26 and 33-36 are also patentably distinct over the cited references for this additional reason.

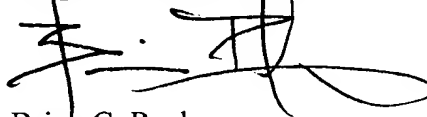
For the above stated reasons the allowance of claims 21-38 is respectfully requested.

It is further noted that new claims 39-43 have been added hereby and the allowance of new claims 39-43 is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attachment is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE". In the event Applicant has overlooked the need for any extension of time or payment of fee, Applicant hereby petitions therefor and authorizes that any charges be made to Deposit Account No. 02-0385, Baker & Daniels. Should the Examiner have any further questions regarding any of the foregoing, the Examiner is respectfully invited to telephone the undersigned at (260) 424-8000.

Applicant respectfully requests that a timely Notice of Allowance be issued in this application.

Respectfully submitted,



Brian C. Pauls
Registration No. 40,122

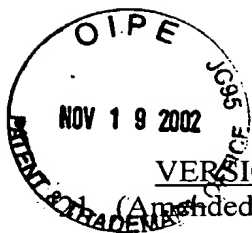
Attorney for Applicant

BCP:sm

BAKER & DANIELS
111 East Wayne Street, Suite 800
Fort Wayne, IN 46802
Telephone: 260-424-8000
Facsimile: 260-460-1700

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(Amended) Relay with coupling element, comprising: at least one spring bracket, [in which] a drive disposed on the spring bracket and [is arranged] which acts over an actuator on at least one active contact spring which cooperates with at least one passive contact spring anchored in the [respective] spring bracket, at least one of the active and passive contact [spring] springs being electrically contactable [over respective] through a connection [contacts] contact; characterized in that the relay is mechanically couplable with at least one further relay of the same kind wherein each of the relays have a similar configuration, [over respective coupling devices of the spring brackets by means of] a coupling element constructed as a separate component engagable with coupling devices disposed on the spring brackets of the respective relays, electric connection contacts of the contact springs of the respective relays being [arranged in the zone of] disposed proximate the respective coupling devices, and further characterized in that the coupled relays lie in mirror-image symmetry relative to the coupling element.

22. (Amended) Relay according to claim 21, characterized in that the active and/or passive contact springs of the spring brackets of said relays are also electrically coupled with one another [over] across the coupling element.

23. (Amended) Relay according to claim 21, characterized in that [the coupling of] the coupling element is releasably coupled.

24. (Amended) Relay according to claim 21, characterized in that [the coupling of] the coupling element is [not releasably] non-releasably coupled.

25. (Amended) Relay according to claim 24, characterized in that the coupling element comprises an insulating material and has at least one partition wall insulatingly separating the respective contact springs of the [respective coupled] relays when the relays are coupled, said partition wall having lateral projections molded thereon which [engage into allocated] are engagable within corresponding receiving openings on the respective spring brackets of the [respective coupled] relays.

26. (Amended) Relay according to claim 25, characterized in that between the lateral projections of the partition wall grooves are formed, which grooves are [suited] adapted for the reception of said contact springs.

27. (Amended) Relay according to claim 21, characterized in that the receiving openings of the respective spring brackets of the relays define [parallel to] lengthwise axes [of receiving openings in the respective spring brackets of the relays there are arranged] and

the spring brackets further define outwardly opening slots disposed parallel to the lengthwise axes [opened toward a face side], [into which slots] the passive contact springs [are thrust] being disposed within the slots.

29. (Amended) Relay according to claim 28, characterized in that [the electric coupling of the passive contact springs of the two spring brackets occurs by means whereby first] the at least one double contact spring is adapted to be connected with the coupling element [and] prior to the coupling element [then is] being plugged together with the respective spring brackets of the relays.

31. (Amended) Relay according to claim 22, characterized in that [the coupling of] the coupling element is releasably coupled.

32. (Amended) Relay according to claim 22, characterized in that [the coupling of] the coupling element is [not releasably] non-releasably coupled.

33. (Amended) Relay according to claim 21, characterized in that the coupling element comprises an insulating material and has at least one partition wall insulatingly separating the respective contact springs of the [respective coupled] relays, said partition wall having lateral projections molded thereon which [engage into allocated] are engagable within corresponding receiving openings on the respective spring brackets of the [respective coupled] relays.

34. (Amended) Relay according to claim 22, characterized in that the coupling element comprises an insulating material and has at least one partition wall insulatingly separating the respective contact springs of the [respective coupled] relays when the relays are coupled, said partition wall having lateral projections molded thereon which [engage into allocated] are engagable within corresponding receiving openings on the respective spring brackets of the [respective coupled] relays.

35. (Amended) Relay according to claim 23, characterized in that the coupling element comprises an insulating material and has at least one partition wall insulatingly separating the respective contact springs of the [respective coupled] relays when the relays are coupled, said partition wall having lateral projections molded thereon which [engage into allocated] are engagable within corresponding receiving openings on the respective spring brackets of the [respective coupled] relays.

39. (New Claim) Relay assembly with coupling element, comprising: at least two relays, each relay having at least one spring bracket, a drive disposed on the spring bracket

and which acts over an actuator on at least one active contact spring which cooperates with at least one passive contact spring anchored in the spring bracket, at least one of the active and passive contact springs being electrically contactable through a connection contact; characterized in that the at least two relays are mechanically couplable, a coupling element constructed as a separate component engagable with coupling devices disposed on the spring brackets of the respective relays, electric connection contacts of the contact springs of the respective relays being disposed proximate the respective coupling devices, and further characterized in that the at least two coupled relays lie in mirror-image symmetry relative to the coupling element and wherein the coupling element is releasably coupled.

40. (New Claim) Relay assembly with coupling element, comprising: at least two relays, each relay having at least one spring bracket, a drive disposed on the spring bracket and which acts over an actuator on at least one active contact spring which cooperates with at least one passive contact spring anchored in the spring bracket, at least one of the active and passive contact springs being electrically contactable through a connection contact; characterized in that the at least two relays are mechanically couplable, a coupling element constructed as a separate component engagable with coupling devices disposed on the spring brackets of the respective relays, electric connection contacts of the contact springs of the respective relays being disposed proximate the respective coupling devices, and further characterized in that the at least two coupled relays lie in mirror-image symmetry relative to the coupling element and wherein the active and/or passive contact springs of the spring brackets of the at least two relays are also electrically coupled with one another across the coupling element.

41. (New Claim) The relay assembly with coupling element of claim 40 wherein the coupling element electrically couples the passive and/or active contact springs of the at least two coupled relays to define a serial circuit.

42. (New Claim) Relay with coupling element, comprising: at least one spring bracket, a drive disposed on the spring bracket and which acts over an actuator on at least one active contact spring which cooperates with at least one passive contact spring anchored in the spring bracket, at least one of the active and passive contact springs being electrically contactable through a connection contact; characterized in that the relay is mechanically couplable with at least one further relay of the same type to provide at least two relays wherein each of the relays have a similar configuration, a coupling element constructed as a

separate component engagable with coupling devices disposed on the spring brackets of the respective relays, electric connection contacts of the contact springs of the respective relays being disposed proximate the respective coupling devices, and further characterized in that the at least two coupled relays lie in mirror-image symmetry relative to the coupling element and wherein said coupling element includes at least one groove and at least one multiple contact spring slidably mounted in the groove and electrically coupling the passive and/or active contact springs of the spring brackets of said relays with one another across the coupling element.

43. (New Claim) The relay with coupling element of claim 42 wherein the coupling element electrically couples the passive and/or active contact springs of the at least two coupled relays to define a serial circuit.